



Dart Aerospace Ltd.
1270 Aberdeen St
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K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D412-666-011
Job Sheet 202686



Part No: D412-666-011

Job Qty: 2 pcs

Part Name: Gross Weight Towing Adapter



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/31/19

Job Tracking No:

Due Date: 11/25/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C1 IPP Rev:B Added GHG 002 NG 02-03-06 IPP Rev:C As per Rev C JLM 07-09-07 Verified By:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	2 pcs	11/25/19		0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		
							Packaging 1 - 29		
							Packaging 1 - 30		



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Container No: S233246



Part: D412-666-011

Job No: 202686

Serial No/Batch: S233246

Revision:

Inspector:

Exp Date:

Instructions: TC STC SH96-88 Issue 3, FAA STC SR005631

120 QC 4	2 pcs	11/25/19	0.00 0.00	Packaging 1 - 31	
				Packaging 1 - 32	
				Packaging 1 - 33	
				Packaging 1 - 34	
				Packaging 1 - 35	
				Packaging 1 - 36	
				QC 4 - 28	
				QC 4 - 58	
				QC 4 - 69	
				QC 4 - 9	
				QC 4 - 46	
				QC 4 - 68	
				QC 4 - 72	
130 Packaging 3-1 - Stock - B4B	2 pcs	11/25/19	0.00 0.00	QC 4 - 74	
				QC 4 - 75	
				QC 4 - 78	
				Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
135 DC - 1 - B4B	2 pcs	11/25/19	0.00 0.00	Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
140 QC 21 - FG	2 pcs	11/25/19	0.00 0.00	Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
135 DC - 1 - B4B	2 pcs	11/25/19	0.00 0.00	DC - 1 - B4B	
				DC - 2 - B4B	
				QC 21 - FG - 21	
140 QC 21 - FG	2 pcs	11/25/19	0.00 0.00	QC 21 - FG - 70	
				QC 21 - SA - 53	

DAS
78 NOV 20 2019
9-89

DAS
78 NOV 20 2019
9-89

Part Op 110 - (Pick Kit)
Descriptions: 120 - (QC4- 100% Inspect kits for completeness)

130 - (Identify as per dwg & Stock Location: _____) Identify and pack for shipping as per PPP D412-666-011 Location :FG023

135 - (Document Control) Photocopy bluefile & type labels per PPP412-666-011 CHG 004

140 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
AN6-15A	Bolt	8 Ea (4 ea)	110-Packaging 1 - Pick Kit	5183433
AN6-45A	Bolt	8 Ea (4 ea)	110-Packaging 1 - Pick Kit	5149338
D2888	Lug	4 pcs (2 ea)	110-Packaging 1 - Pick Kit	3210397
MS21042L6	Nut	8 Ea (4 ea)	110-Packaging 1 - Pick Kit	5167655
NAS1149D0663J	Washer	16 Ea (8 ea)	110-Packaging 1 - Pick Kit	5167525

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	AN6-15A	8	17	0
	AN6-45A	8	22	0
	D2888	4	8	0
	MS21042L6	8	79	0
	NAS1149D0663J	16	491	0

Part Specifications

Specifications could not be found.

Plex 10/31/19 3:20 PM Dart.lajeunesse.marie

Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐



Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐		MRB (QS1042)																																																																									
Date: _____		Sequence #: _____		QTY Affected: _____		MRB (QS1042)																																																																									
Description Work Order Deviation				Disposition																																																																											
Root Cause <table border="1"> <tr> <td>Operator</td><td>☐</td> </tr> <tr> <td>Manufacturing Process</td><td>☐</td> </tr> <tr> <td>Equip/Tooling</td><td>☐</td> </tr> <tr> <td>Handling/Preservation</td><td>☐</td> </tr> <tr> <td>Material</td><td>☐</td> </tr> <tr> <td>Product Improvement</td><td>☐</td> </tr> <tr> <td>Process Improvement</td><td>☐</td> </tr> <tr> <td>Human Factors</td><td>☐</td> </tr> </table>				Operator	☐	Manufacturing Process	☐	Equip/Tooling	☐	Handling/Preservation	☐	Material	☐	Product Improvement	☐	Process Improvement	☐	Human Factors	☐	FAULT CATEGORY <table border="1"> <tr> <td>Pressure/Forced</td><td>☐</td> <td>Contamination</td><td>☐</td> <td>Power Loss/Surge</td><td>☐</td> <td>Positioned Wrong</td><td>☐</td> </tr> <tr> <td>Bending</td><td>☐</td> <td>Misaligned/off center</td><td>☐</td> <td>Folio/Program</td><td>☐</td> <td>Outside Tolerance</td><td>☐</td> </tr> <tr> <td>Crushing</td><td>☐</td> <td>BOM/Route</td><td>☐</td> <td>Grain Direction</td><td>☐</td> <td>Drawing</td><td>☐</td> </tr> <tr> <td>Cracks</td><td>☐</td> <td>Broken/Damage/Defect</td><td>☐</td> <td>Weld</td><td>☐</td> <td>Finish</td><td>☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave/Twist</td><td>☐</td> <td>Incomplete/Unclear Instructions</td><td>☐</td> <td>Wrong Stock Pulled</td><td>☐</td> <td>Part Lost/Missing</td><td>☐</td> </tr> <tr> <td>Marks/Chatter</td><td>☐</td> <td>Drill Holes</td><td>☐</td> <td>Out of Sequence</td><td>☐</td> <td>Misread</td><td>☐</td> </tr> <tr> <td>Mislabeled</td><td>☐</td> <td>Fit/Function</td><td>☐</td> <td>Off-set/Set-up</td><td>☐</td> <td></td><td></td> </tr> </table>				Pressure/Forced	☐	Contamination	☐	Power Loss/Surge	☐	Positioned Wrong	☐	Bending	☐	Misaligned/off center	☐	Folio/Program	☐	Outside Tolerance	☐	Crushing	☐	BOM/Route	☐	Grain Direction	☐	Drawing	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Finish	☐	Crimp/Kink/Ripple/Wave/Twist	☐	Incomplete/Unclear Instructions	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐	Marks/Chatter	☐	Drill Holes	☐	Out of Sequence	☐	Misread	☐	Mislabeled	☐	Fit/Function	☐	Off-set/Set-up	☐		
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Other/Details: _____																																																																															
Completed By _____																																																																															
Lead hand / Supervisor _____																																																																															
QC / QA Coordinator _____																																																																															

1.0 APPLICABILITY:

GROSS WEIGHT TOWING KIT D412-666-011 MAY BE INSTALLED ON DART D205-634-XXX OR D204-635-XXX OR D412-742-XXX SKIDTUBES INSTALLED ON 412 AIRCRAFT TO ALLOW GROUND HANDLING AT GROSS WEIGHT IN ACCORDANCE WITH BELL SERVICE INSTRUCTION BHT-412-SI-58. IT IS ALSO ACCEPTABLE TO INSTALL THIS KIT ON 204/205/210/212 AIRCRAFT EQUIPPED WITH DART SKIDTUBES IN ORDER TO PRESERVE THE LIFE OF THE AFT CROSSTUBES. THIS KIT CONTAINS ENOUGH PARTS TO INSTALL D2888 LUGS ON BOTH SKIDTUBES.

2.0 PARTS LIST:

QTY -011	PART	DESCRIPTION
X	D412-666-011	GROSS WEIGHT TOWING KIT
2	D2888	LUG
4	AN6-15A	BOLT
4	AN6-45A	BOLT
8	AN960JD616	WASHER
4	MS21042L6	NUT (or MS21042-6)

3.0 WEIGHT AND BALANCE:

INSTALLATION	WEIGHT	LONGITUDINAL	
		ARM	MOMENT
D412-666-011	1.90 lb 0.86 kg	163.0 in 4.14 m	310 in lb 3.56 m kg

4.0 PROCEDURE:

- 1) REMOVE AN6-12A BOLTS (4) ON INBOARD SIDE OF AFT SADDLE AND DISCARD. ON LANDING GEAR WITH DART AFT CROSSTUBES, REMOVE (4) AN6-40A BOLTS.
- 2) INSTALL D2888 LUGS WITH AN6-15A BOLTS (2) AS SHOWN IN FIGURE 1. USE AN6-45A (2) BOLTS ON DART CROSSTUBES, AS SHOWN IN FIGURE 2.
- 3) TORQUE BOLTS TO 95-110 in-lb (10.7-12.4 N-m).

5.0 NOTE:

IT IS ACCEPTABLE TO REPLACE THE AN6-15A-45A BOLTS WITH LONGER OR SHORTER AN6 BOLTS AS REQUIRED AND/OR INSTALL EXTRA AN960JD616 WASHERS UNDER NUT TO ENSURE 1.5 TO 4 THREADS IN SAFETY.

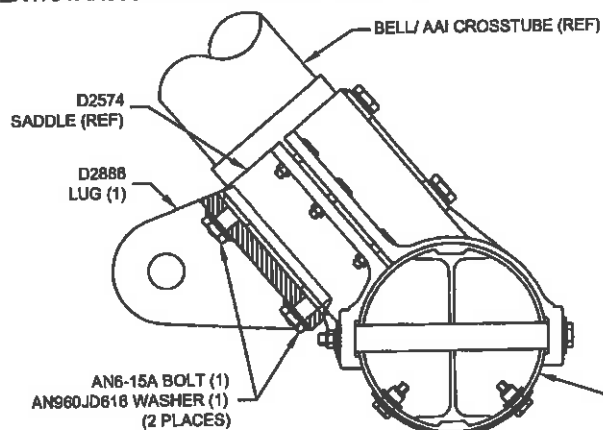


FIGURE 1
(BELL/AAI CROSSTUBES)

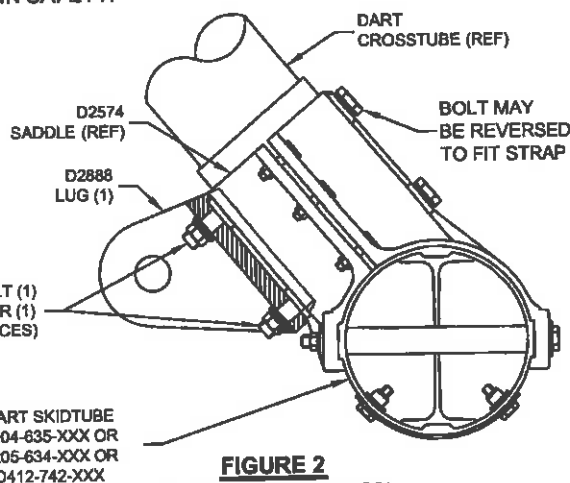


FIGURE 2
(DART CROSSTUBES)

C	- AN6-45A WAS AN6-43A, ADD NOTES - TO ENSURE COMPATIBILITY WITH D412-742-011/-013 - ESTIMATE (PARTS/PICK LIST) IS AFFECTED	MB	07.08.09
B	UPDATE KIT FOR BOTH SKIDTUBES AND COMPATIBILITY WITH DART CROSSTUBES	CP	02.03.04
A	NEW ISSUE	CP	99.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. C
MFG. APPR.	N/A	D412-666	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		412 GROSS WEIGHT TOWING KIT	1:4
DATE	07.08.10	COPYRIGHT © 1999 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	